

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A patch panel system, comprising:

an interface unit that includes a plurality of ports configured to connect to a plurality of user devices, the interface unit being configured to:

receive one or more analog signals from a user device of the plurality of user devices via a port of the plurality of ports,

generate a packet from the one or more analog signals, and

transmit the packet; and

a radio unit configured to:

receive the packet,

convert the packet to a depacketized radio signal representing only extracted payload bits, and

transmit the depacketized radio signal representing only extracted payload bits over a radio channel.

2. (Original) The system of claim 1, wherein the one or more analog signals are associated with a constant bit rate service.

3. (Original) The system of claim 1, wherein the interface unit includes a plurality of interface units each connected to a plurality of user devices and the radio unit includes a plurality of radio units configured to communicate over a plurality of types of radio channels.

4. (Original) The system of claim 1, wherein the ports include a plurality of different types of ports configured to connect to a plurality of different types of user devices.

5. (Original) The system of claim 1, wherein when generating a packet from the one or more analog signals, the interface unit is configured to:

digitize the one or more analog signals to obtain bit representations corresponding to the one or more analog signals,

use the bit representations for a payload portion of the packet, and

add header or framing information to the packet that identifies at least one of the radio unit and the radio channel.

6. (Original) The system of claim 5, wherein when adding header or framing information to the packet, the interface unit is configured to add Internet Protocol header information to the packet.

7. (Original) The system of claim 5, wherein when adding header or framing information to the packet, the interface unit is configured to add Ethernet framing information to the packet.

8. (Original) The system of claim 1, wherein the radio signal includes one of an amplitude modulated waveform and a frequency modulated waveform.

9. (Original) The system of claim 1, wherein the radio unit is further configured to depacketize the packet to obtain depacketized information; and wherein when converting the packet to a radio signal, the radio unit is configured to convert the depacketized information to a radio signal.

10. (Original) The system of claim 1, wherein the radio unit is further configured to encrypt bits associated with the packet.

11. (Original) The system of claim 1, where a binding exists between the port and the radio channel.

12. (Original) The system of claim 11, further comprising:

a management unit configured to control the binding between the port and the radio channel.

13. (Original) The system of claim 1, wherein the radio unit includes a plurality of radio units with a plurality of associated radio channels, where a plurality of bindings exist between the ports of the interface unit and the radio channels associated with the radio units.

14. (Original) The system of claim 13, further comprising:

a management unit configured to control the bindings between the ports of the interface unit and the radio channels associated with the radio units.

15. (Original) The system of claim 14, wherein the management unit uses first addresses associated with the ports and second addresses associated with the radio channels to control the bindings between the ports and the radio channels, at least one of the first and second addresses being used to transmit the packet from the interface unit to the radio unit.

16. (Original) The system of claim 1, wherein the interface unit is further configured to:

receive signaling information,

recognize the signaling information, and
include the signaling information with the packet.

17. (Currently Amended) A patch panel system that includes a plurality of ports and a plurality of radio channels, comprising:
- means for providing a binding between a port of the plurality of ports and a radio channel of the plurality of radio channels, the binding being based, at least in part, on addresses associated with the port and the radio channel;
 - means for receiving one or more analog signals at the port;
 - means for generating a packet from the one or more analog signals;
 - means for transmitting the packet based, at least in part, on the address associated with the radio channel;
 - means for converting the packet to a depacketized radio signal representing only extracted payload bits; and
 - means for transmitting the depacketized radio signal representing only extracted payload bits over the radio channel.

18. (Currently Amended) A method for sending signals through a patch panel system that includes a plurality of ports and a plurality of channels, the method comprising:

providing a binding between a port of the plurality of ports and a channel of the plurality of channels, the binding being based, at least in part, on addresses associated with the port and the channel;

receiving one or more analog signals at the port;

generating a packet from the one or more analog signals;

transmitting the packet based, at least in part, on the binding between the port and the channel;

converting the packet to a depacketized signal representing only extracted payload bits for transmission over the channel; and

transmitting the depacketized signal representing only extracted payload bits over the channel.

19. (Currently Amended) A patch panel system, comprising:

a radio unit configured to:

receive one or more depacketized radio signals representing only extracted payload bits,

generate a packet from the one or more depacketized radio signals representing only extracted payload bits, and

transmit the packet; and

an interface unit that includes a plurality of ports configured to connect to a plurality of user devices, the interface unit being configured to:

receive the packet,

convert the packet to an analog signal, and
output the analog signal to a user device of the plurality of user devices via
a port of the plurality of ports.

20. (Original) The system of claim 19, wherein the interface unit includes a plurality of interface units each connected to a plurality of user devices and the radio unit includes a plurality of radio units configured to communicate over a plurality of types of radio channels.

21. (Original) The system of claim 19, wherein the ports include a plurality of different types of ports configured to connect to a plurality of different types of user devices.

22. (Original) The system of claim 19, wherein when generating a packet from the one or more radio signals, the radio unit is configured to:

digitize the one or more radio signals to obtain bit representations corresponding to the one or more radio signals,

use the bit representations for a payload portion of the packet, and

add header or framing information to the packet that identifies at least one of the interface unit and a port associated with the interface unit.

23. (Original) The system of claim 22, wherein when adding header or framing information to the packet, the radio unit is configured to add Internet Protocol header information to the packet.

24. (Original) The system of claim 22, wherein when adding header or framing information to the packet, the radio unit is configured to add Ethernet framing information to the packet.

25. (Original) The system of claim 19, wherein the radio signal includes one of an amplitude modulated waveform and a frequency modulated waveform.

26. (Original) The system of claim 19, wherein the radio unit is further configured to decrypt bits associated with the packet.

27. (Original) The system of claim 19, wherein the interface unit is further configured to depacketize the packet to obtain depacketized information; and wherein when converting the packet to an analog signal, the interface unit is configured to convert the depacketized information to an analog signal.

28. (Original) The system of claim 19, wherein the radio unit is associated with a radio channel, where a binding exists between the port and the radio channel.

29. (Original) The system of claim 28, further comprising:

a management unit configured to control the binding between the port and the radio channel.

30. (Original) The system of claim 19, wherein the radio unit includes a plurality of radio units with a plurality of associated radio channels, where a plurality of bindings exist between the ports of the interface unit and the radio channels associated with the radio units.

31. (Original) The system of claim 30, further comprising:

a management unit configured to control the bindings between the ports of the interface unit and the radio channels associated with the radio units.

32. (Original) The system of claim 31, wherein the management unit uses first addresses associated with the ports and second addresses associated with the radio channels to control the bindings between the ports and the radio channels, at least one of the first and second addresses being used to transmit the packet from the radio unit to the interface unit.

33. (Original) The system of claim 19, wherein the radio unit is further configured to:

receive signaling information,

recognize the signaling information, and
include the signaling information with the packet.

34. (Currently Amended) A patch panel system that includes a plurality of ports and a plurality of radio channels, comprising:
- means for providing a binding between a port of the plurality of ports and a radio channel of the plurality of radio channels, the binding being based, at least in part, on addresses associated with the port and the radio channel;
 - means for receiving one or more depacketized radio signals representing only extracted payload bits over the radio channel;
 - means for generating a packet from the one or more depacketized radio signals representing only extracted payload bits;
 - means for transmitting the packet based, at least in part, on the address associated with the port;
 - means for converting the packet to an analog signal; and
 - means for outputting the analog signal via the port.

35. (Currently Amended) A method for sending signals through a patch panel system that includes a plurality of ports and a plurality of channels, the method comprising:

providing a binding between a port of the plurality of ports and a channel of the plurality of channels, the binding being based, at least in part, on addresses associated with the port and the channel;

receiving one or more depacketized signals representing only extracted payload bits over the channel;

generating a packet from the one or more depacketized signals representing only extracted payload bits;

transmitting the packet based, at least in part, on the binding between the port and the channel;

converting the packet to an analog signal; and

outputting the analog signal via the port.

36. (Currently Amended) A patch panel system, comprising:

a first interface unit that includes a plurality of first ports configured to connect to a plurality of first user devices, the first interface unit being configured to:

receive one or more first analog signals from a first user device of the plurality of first user devices via a first port of the plurality of first ports,

generate a first packet from the one or more first analog signals, and

transmit the first packet;

a first radio unit configured to:

receive the first packet,

convert the first packet to a first depacketized radio signal representing only extracted first payload bits, and

transmit the first depacketized radio signal representing only extracted first payload bits over a first radio channel;

a second radio unit configured to:

receive one or more second depacketized radio signals representing only extracted second payload bits,

generate a second packet from the one or more second depacketized radio signals representing only extracted second payload bits, and

transmit the second packet; and

a second interface unit that includes a plurality of second ports configured to connect to a plurality of second user devices, the second interface unit being configured to:

receive the second packet,

convert the second packet to a second analog signal, and

output the second analog signal to a second user device of the plurality of second user devices via a second port of the plurality of second ports.

37. (Original) The system of claim 36, wherein the first and second interface units include a same interface unit.

38. (Original) The system of claim 36, wherein the first and second radio units include a same radio unit.

39. (Currently Amended) A patch panel system, comprising:
a plurality of interface units configured to connect to a plurality of user devices via a corresponding plurality of ports; and
a plurality of radio units associated with a plurality of radio channels, the radio units transmitting and receiving depacketized radio signals representing only extracted payload bits over the radio channels;

where combinations of the interface units and the radio units provide conversion of constant bit rate communication to packetized communication when the radio units are transmitting the depacketized radio signals representing only extracted payload bits and reconversion of the packetized communication to the constant bit rate communication when the radio units are receiving the depacketized radio signals representing only extracted payload bits.

40. (Original) The patch panel system of claim 39, wherein bindings exist between the ports of the interface units and the radio channels associated with the radio units.

41. (Original) The patch panel system of claim 40, further comprising:

a management unit configured to control the bindings between the ports of the interface units and the radio channels associated with the radio units.

42. (Original) The patch panel system of claim 41, wherein the management unit uses first addresses associated with the ports and second addresses associated with the radio channels to control the bindings between the ports and the radio channels, the first and second addresses being used to communicate between the radio units and the interface units.

43. (Currently Amended) A patch panel system, comprising:
a plurality of interface units configured to connect to a plurality of user devices via a corresponding plurality of ports; and
a plurality of radio units associated with a plurality of radio channels, the radio units transmitting and receiving depacketized radio signals representing only extracted payload bits over the radio channels;
where a port of the plurality of ports is assigned a first address corresponding to a radio channel of the plurality of radio channels and the radio channel is assigned a second address corresponding to the port, the first and second addresses creating a binding between the port and the radio channel.

44. (Currently Amended) A patch panel system, comprising:

a plurality of interface units configured to connect to a plurality of user devices via a corresponding plurality of ports; and

a plurality of radio units associated with a plurality of radio channels, the radio units transmitting and receiving depacketized radio signals representing only extracted payload bits over the radio channels;

where a port of the plurality of ports is assigned a first address corresponding to a radio channel of the plurality of radio channels and the radio channel is assigned a second address corresponding to the port, the first and second addresses being used to transmit packets between the port and the radio channel.